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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 10/564,409 | 07/07/2006 | Shik Chi Tsang | 056646-5033 | 3488 |
| 9629 7590 04/01/2009 MORGAN LEWIS & BOCKIUS LLP 1111 PENNSYLVANIA AVENUE NW WASHINGTON, DC 20004 | | | | |
| EXAMINER | | | | |
| SRIVASTAVA, KAILASH C | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 1657 | | | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/564,409

Applicant(s)

TSANG ET AL.

Examiner

Kailash C. Srivastava

Art Unit

1657

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 and 20-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-18 and 20-50 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. The Preliminary amendment filed 13 January 2006 is acknowledged and entered.

Informal Matters

2. Please note that the correct Serial Number of your Non-Provisional Application (i.e., USSN) under prosecution at the United States Patent and Trademark Office (i.e., USPTO) is 10/564,409. Please ensure that the correct USSN (i.e., 10/564,409) for the instant Non-Provisional U.S. application is cited in all future correspondence with this Office.
3. The assigned Art Unit location for USSN 10/564,409 at the USPTO is 1657. To aid in correlating any papers for the instant application (i.e., 10/564,409), all further correspondence regarding this application should be directed to Art Unit 1657.
4. The assigned Examiner to 10/564,409 at the USPTO is Kailash C. Srivastava. To aid in correlating any papers for the instant application (i.e., 10/564,409), all further correspondence regarding this application should be directed to Examiner Kailash C. Srivastava in Art Unit 1657.

Claims Status

5. Claim 19 has currently been cancelled.
6. Claims 5, 7-11, 13, 15, 17, 20, 22-25, 29-30, 32-36 and 44-49 have been amended.
7. Claims 1-18 and 20-50 are pending.

Election /Restriction

8. This application contains the following inventions or groups of inventions, which are not so linked as to form a single general inventive concept under PCT Rule 13.1 and 37 C.F.R. §1.475. Restriction to one of the following inventions is required under 35 U.S.C. §121 and §372.

In accordance with rules cited *supra*, applicant(s) is/are required, in reply to this Office Action, to select a single invention to which the claims must be restricted.

- Group I, consisting of claims 1 and 20-25 drawn to a method to measure partition coefficient of a compound.
- Group II, consisting of Claims 2-12 drawn to a nanoparticulate composition.

- Group III, consisting of claim 13 drawn to a method to attain partition coefficient of a compound between two miscible solvent.
- Group IV, consisting of claims 14-18, drawn to another nanoparticulate composition with porous surface and adsorbed solvent thereto.
- Group V, consisting of Claims 26-35 drawn to a third nanoparticulate composition comprising a catalytically active species.
- Group VI, consisting of Claims 36-40 drawn to a method to make a nanoparticle.
- Group VII, consisting of Claims 41-50 drawn to a method to deposit a composition in to the pores of a porous material by contacting said porous material with a supercritical fluid.

Inventions are Independent or Distinct

9. The inventions listed in Groups I-VII above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The patent rules under 37 C.F.R §1.475 for Unity of Invention (Paragraphs (a), (b) and (c)) are cited below:

§1.475 Unity of Invention before the International Searching Authority, the International Preliminary Examining Authority and during the National Stage

(a) An International and National Stage Application shall relate to one invention only, or to a group of inventions so linked as to form a general inventive concept ("requirement of unity of invention"). Where a group of inventions is claimed in an application, the requirement of unity of invention shall be fulfilled only when there is a technical relationship among those inventions involving one or more of the same or corresponding special technical features. The expression "special technical features" shall mean those technical features that define a contribution which each of the claimed inventions, considered as whole, makes over the prior art.

(b) An International or a National stage application containing claims to different categories of invention will be considered to have unity of invention if the claims are drawn only to one of the following combinations of categories:

- (i) A product and a process specially adapted for the manufacture of said product; or
- (ii) A product and process of use of said product; or
- (iii) A product, a process specially adapted for the manufacture of the said product, and a use of the said product; or
- (iv) the said process; or
- (v) A product, a process specially adapted for the manufacture of the said product, and an apparatus or means specifically designed for carrying out the said process.

If an application contains claims to more or less than one of the combinations of categories of invention set forth in paragraph (b) of this section, unity of invention might not be present. The groups of invention fall within category [(2), a product and a method of use of said product].

10. The inventions listed as Groups I-VII above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

PCT Rule 13.2 does not provide for multiple compositions, or multiple methods of making a composition, or multiple methods of use of a composition within a single application. Thus, the first appearing composition is combined with a corresponding first method of making said composition (if applicable) and/ or use of said composition. However, the additional composition and method claims each constitute a separate inventive Group.

In addition to the requirement that a Group of inventions must belong to one of the specific categories provided by PCT Rule 13.2, the inventions in the category, e.g., as a composition and a method of use of said composition, must have a special technical feature that unites them. See Patent rules under 37 C.F.R. §1.475, where a special technical feature is a contribution OVER THE PRIOR ART.

The special technical features of each of groups I, III, and VI-VII are different to each other because despite having a common component, i.e., miscible liquids and a relationship to “partition coefficient”, they each lead to a different effect through different steps. The composition Groups inventions II and IV-V each have a different special technical feature because each of them despite having a nanoparticle have specific characteristics separating one from the other. E.g., the special technical feature of Group II composition is that it is a colloidally stable suspension; Group IV composition, however, has the special technical feature of “solvent adsorption in a pre-determined amount per unit weight of the composition”. The special technical feature for Group V composition is entrapping a catalytically active species, e.g., an enzyme. Additionally, each of the inventions in Groups I-VII are notoriously well known in the art (see for e.g., U.S. Patent 6, 548,264 B1 (e.g., Abstract, Examples 1-8 and Claim 44). Since no special technical feature exists between the inventions of groups I-VII, there is no unity of invention.

The inventions listed as Groups I-VII do not relate to a single general inventive concept under PCT Rule 13.1 because. Under PCT Rule 13.2, they lack the same, or corresponding special technical features for the following reasons: The technical features of each one of the inventions in Groups I-VII are already known in the prior art by e.g., U.S. Patent 6, 548,264 B1 to Tan et al. (See, e.g., Abstract, Examples 1-8 and Claim 44).

The expression, "special Technical Feature" refers to those features that define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art. Thus, a feature found in the prior art can not be considered to be a special technical feature.

11. In accordance with 37 C.F.R §1.499, applicant (S) is/are required, in response to this action, to elect a single invention to which the claims must be restricted.

Applicants is/are advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement is traversed (37 C.F.R §1.143).

12. Applicant (S) is/are reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 C.F.R §1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 C.F.R §1.48(b) and by the fee required under 37 C.F.R §1.17(i).

13. The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims that depend from or otherwise include all the limitations of the allowable product claim will be rejoined in accordance with the provisions of M.P.E.P. § 821.04. **Process claims that depend from or otherwise include all the limitations of the patentable product** will be entered as a matter of right if the amendment is presented prior to final rejection or allowance, whichever is earlier. Amendments submitted after final rejection are governed by 37 C.F.R... §1.116; amendments submitted after allowance are governed by 37 C.F.R... §1.312.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 C.F.R... §1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. §101, §102, §103, and §112. Until an elected product claim is found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowed product claim will not be rejoined. See "Guidance on Treatment of Product and Process Claims in light of *In re Ochiai*, *In re Brouwer* and 35 U.S.C. § 103(b)," 1184 O.G. 86 (March 26, 1996). Additionally, in order to retain the right to rejoinder in accordance with the above policy, Applicant is advised that the process claims should be amended during prosecution either to maintain dependency on the product claims or to otherwise include the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.**

Further, note that the prohibition against double patenting rejections of 35 U.S.C. §121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See M.P.E.P. §804.01.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Kailash C. Srivastava whose telephone number is (571) 272-0923. The examiner can normally be reached on Monday to Thursday from 7:30 A.M. to 6:00 P.M. (Eastern Standard or Daylight Savings Time).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jon Weber can be reached at (571)-272-0925 Monday through Thursday 7:30 A.M. to 6:00 P.M. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding may be obtained from the Patent Application Information Retrieval (i.e., PAIR) system. Status information for the published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (i.e., EBC) at: (866)-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kailash C Srivastava/
Examiner, Art Unit 1657

Kailash C. Srivastava
Patent Examiner
Art Unit 1657
(571) 272-0923

29 March 2009
/David M. Naff/
Primary Examiner, Art Unit 1657